

2-day training-of-trainers course. Between June and September 2020, 963 HCWs from 194 hospitals in 21 provinces received the training. HCW knowledge was assessed using a 20-item questionnaire consisting of multiple-choice questions at the beginning and closing of the training course. A participant received 1 point for each correct answer. He or she was considered to have improved knowledge if the posttest score was higher than the pretest score with a score ≥ 15 on the posttest. We applied the McNemar test and logistic regression model to test the level of association between demographic factors and change in knowledge of COVID-19. **Results:** Overall, 100% of HCWs completed both the pretest and posttest. At baseline, only 14.7% scored ≥ 15 . Following the training, 78.4% scored ≥ 15 and 64.3% had improved knowledge according to the predetermined definition. Questions related to the order of PPE donning and doffing and respiratory specimen collection procedures were identified as having the greatest improvement (44.6% and 60.7%, respectively). Being female (OR, 1.5; 95% CI, 1.1–2.0), having a postgraduate degree (OR, 2.5; 95% CI, 1.4–4.4), working in a nonmanager position (OR, 1.5; 95% CI, 1.1–2.1), previous contact with a COVID-19 patient (OR, 1.5; 95% CI, 1.1–2.0), and working in northern Vietnam (OR, 2.0; 95% CI, 1.4–2.6), were associated with greater knowledge improvement. **Conclusions:** Most HCWs demonstrated improved knowledge of COVID-19 prevention and control after attending the training. Particular groups may benefit from additional training: those who are male, leaders and managers, those who hold an undergraduate degree, and those who work in the southern provinces.

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Subject Category: Emerging and re-emerging infectious diseases in the healthcare setting

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Cutaneous cryptococcosis in patient with advanced HIV disease: Is it possible to give antifungal monotherapy?

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Objectives: *Cryptococcus* infection is one of the major human immunodeficiency virus (HIV)-related opportunistic infections, and the CD4 count falls below 100 per μL . Primary treatment for HIV-associated cutaneous cryptococcosis is amphotericin B (AmB) plus flucytosine. **Methods:** We present the case of a man with advanced HIV disease who developed whole-body cutaneous lesions yet improved with high-dose fluconazole alone. **Results:** A 33-year-old Asian man with a medical history of pulmonary tuberculosis and cryptococcal meningitis with complete treatment, injection drug use, and HIV infection with default of antiretroviral treatments (ART) 3 years earlier, presented to the emergency department with fever, oral thrush, and 30-pound weight loss over 6 weeks. He also had plaques, multiple hard papulonodules with central ulceration, and macular skin lesions all over his body of varying size. Blood cultures were negative for bacteria growth, but fungal microscopy of the blood culture showed unspecific hypha. Histopathology examination of the skin biopsy showed a classic “soap bubble” appearance, which is associated with *Cryptococcus* infection. Laboratory values revealed anemia (8.6 g/dL), leukopenia ($2.9 \times 10^9/\text{L}$), lymphopenia (58/ μL), and thrombocytopenia ($145 \times 10^9/\text{L}$). The CD4 cell count was 18/ μL , and the serum viral load was 638.665 copies/mL. Lumbar puncture could not be performed due to patient refusal. Treatment with high-dose fluconazole (1,200 mg) for 3 months was initiated and is planned to continue with consolidation and maintenance dose. ART was administered 4 weeks after starting antifungal therapy. His fever resolved and slow regression of the skin lesions occurred after treatment

was given. **Conclusions:** Cutaneous cryptococcosis was assessed by biopsy of the cutaneous lesion, which is essential to confirming the diagnosis. In the case of cryptococcosis, skin infection may indicate a further progression of advanced HIV disease. In HIV-infected patients with *Cryptococcus* findings in any part of the body, a lumbar puncture should be considered to rule out central nervous system infection. Although neither AmB nor flucytosine was given due to unavailability in this area, the patient improved. In resource-limited settings, high-dose fluconazole alone may be useful as an alternative treatment, although it is also very challenging.

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The effectiveness of an ultraviolet-C device for terminal room disinfection in an intensive care unit

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Objectives: Medical devices and the hospital environment can be contaminated easily by multidrug-resistant bacteria. The effectiveness of cleaning practices is often suboptimal because environmental cleaning in hospitals is complex and depends on human factors, the physical and chemical characteristics of environment, and the viability of the microorganisms. Ultraviolet-C (UV-C) lamps can be used to reduce the spread of microorganisms. We evaluated the effectiveness of an ultraviolet-C (UV-C) device on terminal room cleaning and disinfection. **Methods:** The study was conducted at an ICU of a medical center in Taiwan. We performed a 3-stage evaluation for the effectiveness of UV-C radiation, including pre-UV-C radiation, UV-C radiation, and a bleaching procedure. The 3 stages of evaluation were implemented in the ICU rooms from which a patient had been discharged or transferred. We collected the data from adenosine triphosphate (ATP) bioluminescence testing, colonized strains, and their corresponding colony counts by sampling from the environmental surfaces and air. We tested 8 high-touch surfaces, including 2 sides of bed rails, headboards, footboards, bedside tables, monitors, pumping devices, IV stands, and oxygen flow meters. **Results:** In total, 1,696 environmental surfaces and 72 air samples were analyzed. The levels of ATP bioluminescence and colony counts of isolated bacteria decreased significantly after UV-C radiation and bleaching disinfection for both the environmental and air samples ($P < .001$). Resistant bacteria (vancomycin-resistant *Enterococcus*, VRE) were commonly isolated on the hard-to-clean surfaces of monitors, oxygen flow meters, and IV pumps. However, they were also eradicated ($P < .001$). **Conclusions:** UV-C can significantly reduce environmental contamination by multidrug-resistant microorganisms. UV-C is an effective device to assist staff in cleaning the hospital environment.

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Introduction of carbapenemase-producing Enterobacterales (CPE) in the aqueous environment of the newly built National Centre for Infectious Diseases (NCID) in Singapore

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